

arm aerosol IOP telecon 2-19-2003

ferrare, cahill, daum, yin-nan lee, kirchstetter, ogren, sheridan, schwartz, feingold, schmid, michalsky, hudson, strawa, flynn, ghan, bucholz, covert, wang, wagener, arnott, pilewskie, zhanqing li, nelson

updates, action items

1. Rick Wagener to check on archiving preliminary IOP data and setting up user accounts.
2. Ted Cress to set up meeting with FAA, USAF, CIRPAS for flight coordination.
3. Rich to check on foreign national access to Ponca City airport.
4. Steve to ping ACP people to get requirements for setting up instruments in GIF trailer. Steve needs to ping Cowin and Aerodyne Mass spec people.
5. Dan, Joe, Pat, Connor to investigate potential glint problems from 10 m stack at GIF trailer.
6. John, Pat S to investigate implementing 1 ? m cut in GIF trailer for IOP.
7. Dan, Connor? Investigate issue of setting up flame for aerosol generation in GIF, aerosol trailers.
8. Pat S to canvass community about participation in intercomparison activities.
9. Pat S to provide update on instrument table and trailer plans listing investigators and instruments.
10. Connor to check on archival storage capabilities at sgp.
11. Connor and John to discuss near real time access to AOS data during IOP.
12. Rich to check on CCN comparisons at GIF.
13. Connor to check on and be contact person for time synchronization software for IOP.
14. Rich to add agenda item at AWG meeting regarding desire for IAP to measure aerosol properties at ambient conditions.
15. Pat S to ping people about aerosol size cuts.
16. Steve to update status on ACP participation.
17. (All) Submit updated (ARM) questionnaires (http://www.db.arm.gov/cgi-bin/IOP/SignIn.pl?person_id=) and site request forms (<http://www.db.arm.gov/cgi-bin/SARS/SignIn.pl?funcype=main>) and shipment notification forms (<http://sdsops.arm.gov/shipping/shipnote.html>).

pat sheridan needs to let dan nelson get started moving on meeting our reqmts so therefore needs to know our reqmts for surface facilities.

rick wagener during the IOP the archive sets up a prelim data area and then create user accounts. RICK to check.

Rich: ted intended to join. Congress has passed budget; not sure signed; drawing up contracts and then there will be a second increment once money is in hand. still some budget issues. some are still in limbo.

Issues of twin otter instrum and aircraft facilities. Haf says pretty much on schedule for integration. no meeting yet w FAA or airforce flight plans coordination TED CRESS TO SET UP. Plans have been passed to ted and doe folks. next few weeks planning meeting haf, pilot, greenwood, air force, FAA, rich?. Haf and pilot will look at hangar, power etc. no problems expected.

Beat asks status update for aircraft instrums:

arnott diode on its way will match tony's wavelength; waiting alignment. he will integrate also for adam (Asian Dust Above Monterey) if in time.

covert modified psap; in the lab. not adam? but will be on for arm IOP.

covert tsi neph ready to be shipped for adam

covert humid neph not part of adam but will deliver april.

strawa by beat; this or next week. not same as Reno. tight but hope to integrate for adam. will be some lab intercomps w one in Reno and ogren neph.

rissman seinfeld tandem DMA jay wang familiar. asks issues of foreign nationals access to airport. RICH NEED TO CHECK Access to site issue also. John doesn't think a problem.

sun photometer to be integrated for adam. aats14.

MOUDI hegg/covert. part of cirpas facility. Need to know funding before ordering filters. Still up in the air. Pete Daum says ted wanted him to pay for it.

Pilewskie ssfr OK not adam. will be on the stabilized platform for IOP

bucholz funding OK company funded busily having platform ready by mid march looks like ready for adam.

bucholz instrums in the works hopes to have by mid march. Kipp cm22 etc

CCN? jay wang does not know details; need to check with tracy rissman or john seinfeld.

Dates start and duration. Rich says driven by aircraft availability. May 5 monday thru May 31 saturday. beat expects start date on 5th. 60 hours flight time. in addn to ferry.

IAP instrums for IOP. John working on it. trying to get (humidified) neph suitable for aircraft. hopes to get corrected.

Schwartz was asked about addl instrums for site. Most investigators for gif trailer. Sheridan needs info. Space issue more than flow. STEVE needs to ping the people to get requirements. Sheridan has info on splat mass spec. 2 rack DMA. Needs info on aerodyne instrum. Y lee: pat have info on pils? Yes. Particle collector from Jim Cowin. Pat thinks there is flexibility. STEVE needs to ping cowin. STEVE needs to ping Aerodyne mass spec.

Nelson joins. Pat and Dan fill in on mods. gnd based measmt issues: inlet for gif trailer. Issues of who, where. Pat thinks can handle. Then calibration issues.

Locations for PI's. Aerosol trailer: 30 L min Covert gets one 2d line kirchstetter. sees no issues housing or flows. everyone else in gif. Rich asks whether names and locations can be identified on figure. Rack -1 kirchstetter; 3 lamda neph. Rack 2 computer instrum potentially avail for IOP. Extinction cell 14 food hung between doors. high, out of way. getting tubing is issue but not problem. Spaces in gif trailer not assigned. ogren notes space is avail for instrums but flow issues.

question of shadowing from stack of gif. would be problem later in season. will not shadow instrums on gif deck. also cleaning study ongoing. stoffel.

joe notes that the diffuse horizontal is potentially affected. Asking color. influence. Joe would like flat black paint.

Ogren asks whether flat black heating problem. john is talking about a heater to make sure that air is at low RH. So heating of tube wrap stack in silver bubble wrap and then paint black? Do if it comes to that. Has been used before. Kept temp before per covert. Dan asks how much glint would come off it. Joe says can do experimentally. try it on a bright sunny day. Do it empirically. and if need to wrap, lower it and dan's people wrap it.

steve asks joe after diffuse instrums. will be on guest facility. and cavity on clear days. there are two pyrliometers on tracker as it is now.

distance gif to aos? [600 ft; provided by dan nelson later, see maps at <http://www.ops.sgp.arm.gov/drawings/cfbase.htm> and http://www.arm.gov/docs/sites/sgp/images/maps/sgp_cart_cf.gif]

rich asking pat on issues regarding gif trailer. pat calls attn to plan on web site. need aerosol inlet and stack. dan responsible for building the stack, 10 m pvc sewer pipe on tip up tower about 10 ft from west wall of trailer; shading calcs based on 5 ft from wall. heater section is 8 ft stainless section. so 10 ft better. calc was made for 5 ft. Dan responsible for stack and plenum. Concerns over copper plenum. Dan can get made out of stainless. Several ports. made calcs for 10 μ m particles no upper limit cut such as a cyclone; possible to get some larger. dan responsible for stack and plenum. CMDL is responsible for RH control and flow monitoring. pitot tube differential pressure gage, RH sensor and PID controller heater. Planning on 40% RH air at west wall where enters building. Insulate distribution system but nothing else. Rich asking if any duplication of instrums. John says will be size instrums but would require intercomp before relying on differences. Hudson will be running DMA? Wang will have scanning DMA. Wang hoping on an opc. tsi long column to get 800 nm to 1 μ m. can change flow rate for more sensy. up to 1 μ m. Jim the same. Tom cahill goes up to 10 μ m off line for chem comp, mass and optics. transmission 50 lamda 1 hr time resolution; avail 2 wks after field.

John wonders whether to get a tsi neph in gif trailer. pat arnott bringing an integrating sphere and radiance neph. still some diffis coming out of Reno with tsi neph. some of that is truncation angle. esp large particles. No 1 μ m impactor in gif trailer so size will be potential issue. John says not possible to compare nephs if not harmonizing RH and size. But no plan to replicate sizer in gif. Rich still asking about comparison. But RH issue and 10 μ m cut. No impactor avail for the plenum; would have to be on a line by line basis. John notes that the 1-10 μ m range is only 10% of submicron. Would require cyclone at 10 μ m at 200 L min⁻¹ to do this.

Rich still asking whether some comp. can switch off the 10 μ m in the aos? John says would be half hour swap in out. John suggests potentially useful on a dusty day. John suggests duplicate tsi neph with a cut on it.

Jay suggests that the G-1 pcasp can compare to the opc pcasp. John says can do another neph. Add to work stmt for ted. John uneasy about pcasp comps unless prior running side by side. Jay asks do that prior? possible? john concerned about particle losses at large size range. But could sample ambient air. john says easy. only an issue of time. calibrations in aos, gif, cirpas going to take time. days before start of expt. Prior to May 5.

Rich notes concern whether any of the aircraft comps prior to may 5. Sheridan avail a week before. Cant speak for others. Who would be involved? Has sketched a general plan. comp of measmts of each instrum type. Bring Reno aerosol generation system to hangar or trailer. still issues of inlet loss. Generation system is white and black aerosols mixing chamber 20 sampling ports air to multiple instrums. size range? am sulfate number peak 0.2 -0.3 μm ; soot depends on source kerosene, diesel, carbon vane pump. Where? doubt flame in either trailer or hangar. So would have to do it outside. Logistical issues.

Question to nelson flame in the trailer. kerosene lamp 4 inch square candle size flame w chimney pick it off a foot above flame. Issues of fire detection and suppression. None.

Rich asking who wants to determine who would participate in this intercomp. Rich concerned about impact on aircraft flights. Pat S to canvass community.

Rich would like to update instrum table and plans of trailers. when becomes known. John suggests instrums w least flow closest to wall and most flow at end of plenum. keeps flow thru plenum more constant. John suggests 3 pick offs right at wall and get many people and low flows and smallest instrums there. Pat S to provide update on instrument table and trailer plans listing investigators and instruments.

Lee asks about flow. bring own pumps. so is total governed by that? John will provide variable blower at back end of plenum but not automatic. Manual. But requires cooperation. instead of bypasses.

Steve questioning hours of day.

Hudson may want to run 24-7; better to keep instrum going. need to check up on it at least daily.

Rich anticipating little if any nighttime operations. questionnaire? Rich suggests pat s list serve as check list for IOP questionnaire. suggests that the questionnaire serve as the place for this. Rich says possible to edit this and amend it.

Rich suggests that IOP questionnaire is the place for this. then rich can go thru and filter this out and make a master sheet. rich referring to the IOP questionnaire. Suggests at same time send to pat s. Pat will update and send to rich.

Wagener says section on questionnaire about data delivery. Need for prelim data area. Some have already noted yes. So he can get up password protected sites for these people. R-1 machine in control trailer or access thru intranet. Rick says iop.archive.arm.gov is available there too. Rick says archive location is better. see questionnaire. Issue of storage space restrictions. Less than 1 gig is acceptable. Multiple gigabytes requires special arrangements. Connor will check on local issues regarding a gig.

John asks connor and rick about aos data; wants them to be accessible to participants. Connor says grab off of xdc IOP special. John suggests connor make procedure available. AOS unedited stream. should be avail thru R1. Connor asking quick thrupt of aos? Raw data immediately. Connor to ping john.

John: CCN comps. Caltech and DRI side by side? Hudson says one on ground? Tracy not on call. Rich will send email and check on this. Airport? or at cart site? John doesn't want this to fall thru cracks. once or twice.

Sheridan indicates that rissman will be operating out of gif; also hudson.

Ogren suggests people know how to synchronize computers to time. Get client software and learn how to use it. Connor the contact person.

Ogren: sample condition sizing and RH. Teom. Size cut. 2.5 in the aos have 10 μm and 1 μm cut. Ogren asking about size cuts on otter. whatever gets in. 5-8 μm . but IAP running with 1 μm cut.

Beat notes that goal is ambient aerosol. John raises question why compare with iap at all.

Cahill has 2.5 and 1 μm cuts on drum. 1 hr resolution.

Beat make as close to ambient. so it is a test of what the iap is missing. teom and pils are 2.5 μm diams.

pat arnott a switchable inlet on ground?

Rich asks whether possible on iap to remove the 1 μm inlet. easy but rest is not optimized for large particles. disc of whether to add or not.

question to dave about size cuts on otter.

beat reminds ambient closure, not inlets and nephs. john questioning whether we can do comps betw aircraft.

discussion of purpose of iap.. John suggests for agenda for broomfield meeting. What want to do long term. Redesign to ambient closure?

So remove 1 μm cut on IOP from time to time. pat says not frequent. once or twice at beginning.

Issue of comparitabie flights. compare when possible. Don't swap out the iap filter.

Rich asks pat to ping people on their size cuts. Steve suggests yinnan switch to a 1 μm cut. Pat arnott with a switchable 1 μm cut. Tom K with a switchable cut. Or after the aos impactor. yinnan to check.

Rich reminds working group and participants for monday meeting at arm science team meeting after lunch. as long as needed. Good time for pat to have trailer plans. Rich will have science plan. Refer to Rich's email. And any topics to be added.

Dates may 5-31 but ahead of time is available if needed.

Steve to get right on ACP participation.

Nelson 600 ft between trailers. Rich notes maps on web page. But dan says scale is not perfect. elevation difference less than a couple of feet.

Reminder questionnaires and advise issues to rich or mail list as approp.